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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,182	08/29/2000	David Slocum	24837/04206	9219

7590 05/22/2002

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EXAMINER

SMITH, ZANDRA V

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/650,182	SLOCUM ET AL.
	Examiner Zandra V. Smith	Art Unit 2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 3-11 is/are allowed.
- 6) Claim(s) 1,2,13 and 15-17 is/are rejected.
- 7) Claim(s) 14 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.	6) <input type="checkbox"/> Other: ____.

## **DETAILED ACTION**

The following office action is in response to amendment filed February 26, 2002. The examiner apologizes for the new grounds of rejection, however upon further search applicable prior art references were found.

### ***Claim Objections***

The following is a quotation of section (d)(1) of 37 CFR 1.75

The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

Claims 15-17 are objected under 37 CFR 1.75 section (d)(1), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15-17, recite “said filter/photodetector pairs.” There is insufficient antecedent basis for this limitation in the claim since claim 1 does not mention filter/photodetector pairs.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Katayama (6,226,034)* in view of *Leeds et al. (5,760,607)* and *Hamaguchi et al (5,191,409)*.

As to **claim 1**, Katayama discloses a system for spatial non-uniformity correction of a color sensor, comprising:

a housing (item 12, col. 2, line 28);

the CCD (col. 2, line 28) reads on the plurality of photo detectors since it is comprised of a plurality of photo sites (see abstract); and

a field programmable gate array.

Katayama differs from the claimed invention in that the field programmable gate array is not specifically disclosed as reading the signals out in parallel, however the use of a field programmable gate array to read signals out in parallel is well known as taught by Leeds. Leeds discloses a system comprising a field programmable gate array and intelligent memory which includes a field programmable gate array used to read signals out in parallel (col. 9, lines 26-28). It would have been obvious to one having ordinary skill in the art at the time of invention to use the field programmable gate array to read the signals out in parallel since this would increase processing speed.

Additionally, Katayama fails to specifically disclose accumulating data for a selected time period, however to do so is well known as taught by Hamaguchi. Hamaguchi discloses a color scanner system that includes accumulation of data for a selected time period (col. 5, lines 25-30). It would have been obvious to one having ordinary skill in the art at the time of invention to accumulate data over a selected period of time to improve the signal-to-noise ratio.

As to **claim 2**, the system of Katayama, Leeds, and Hamaguchi discloses everything claimed, as applied above, in addition a plurality of signal output channels connected to one of the plurality of photo detectors for communicating data is provided where one color component

is captured per pixels and in the processing (col. 2, lines 63-65 and col. 5, lines 54-65).

Additionally, the field programmable gate array receives data from the output channel (col. 5, lines 54-65) and Leeds provides the obviousness of reading the signals out in parallel (please see claim 1 for obvious rationale).

As to **claims 15 and 17**, the system of Katayama, Leeds, and Hamaguchi discloses everything claimed, as applied above, with the exception of particulars of the filter/photodetector pairs, however it would have been obvious to one having ordinary skill in the art at the time of invention to include filter/photodetector pairs with the claimed characteristics since it has been held that the selection of a known materials on the basis of its suitability for the intended use is within the level of ordinary skill of a worker in the art.

As to **claim 16**, the system of Katayama, Leeds, and Hamaguchi discloses everything claimed, as applied above, in addition the filter/photodetector pairs are arranged in an array (col. 1, line 57).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Goetz et al. (4,134,683)* in view of *Lubbers et al. (3,825,342)*.

As to **claim 13**, Goetz discloses a multispectral imaging and analysis system, comprising: filtering light from a plurality of filters (col. 3, lines 28-33); detecting the filtered light and generating plurality of light signals (col. 3, lines 41-47); reading the plurality of light signals in parallel (col. 3, lines 49-51); and generating output signals based on the plurality of light signals read to represent the color of the object (col. 3, lines 65-68).

Goetz differs from the claimed invention in that the light signals are not accumulated for a selected amount of time, however to do so is well known as taught by Lubbers. Lubbers discloses an optical absorption analyzer that accumulates light signals produced by filtered light on a detector element (col. 2, lines 60-65) and accumulates the signals over a time period (col. 3, lines 10-15). It would have been obvious to one having ordinary skill in the art at the time of invention to accumulate data over a selected period of time to improve the signal-to-noise ratio.

***Allowable Subject Matter***

Claims 3-11 are allowable over the prior art of record.

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: prior art of record fails to provide or fairly suggest, a color measuring device which includes, in combination, a field programmable gate array a plurality of optical filter pairs having a responsivity which extends over different overlapping wavelength regions at the longer wavelength end of the spectrum. In addition, the prior art of record fails to provide or fairly suggest, a colorimeter that includes a field programmable gate array a plurality of optical filter pairs having a responsivity that extends over different overlapping wavelength regions at the longer wavelength end of the spectrum.

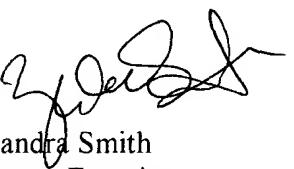
***Response to Arguments***

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (703) 305-7776. The examiner can normally be reached on 7:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703)308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0530.



Zandra Smith  
Patent Examiner  
Art Unit 2877  
May 16, 2002